FIELD AND HERBARIUM STUDIES IN SOUTHERN ILLINOIS

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Continued studies of the flora of southern Illinois have resulted in the discovery of a number of species not previously reported from the state and of some species previously unknown in southern Illinois.

Penstemon arkansanus Pennell. The discovery of the Ozarkian species in an area where other members of this province have been found furthers one's belief that southwestern Randolph County and northwestern Jackson County at one time harbored a considerable number of Ozark plants. *Ranunculus harveyi*, *Talinum calycinum*, *Solidago buckleyi*, and *Pinus echinata* are other southern species which occur in adjacent areas. In Missouri, *Penstemon arkansanus* is known from Madison, Ozark, Taney, Stone, Barry, Newton, and McDonald Counties (Palmer and Steyermark, 1935). It also occurs in Arkansas and eastern Texas. The Illinois station which is on a rocky wooded hillside southwest of Ava in Jackson County (May 21, 1956; *Mohlenbrock 8808*) extends the range of this species to the north and east. *Penstemon arkansanus* resembles *P. pallidus* in several respects, but the leaves of *P. arkansanus* are glabrous or nearly so and the flower parts are somewhat smaller.

Polygonatum. In recent years, the literature concerning the occurrence of species of the genus *Polygonatum* in Illinois has become confusing. Jones in 1945 recognized *P. biflorum* (Walt.) Ell. and *P. pubescens* (Willd.) Pursh as occurring in Illinois. However, in 1950, Jones listed *P. commutatum* (Schult.) Dietr. and *P. pubescens*, placing the specimens previously included by him under *P. biflorum* into either *P. commutatum* or *P. pubescens*. This was on the basis that the true *P. biflorum* of Elliott did not occur in Illinois. Fernald (1950) and Gleason (1952) substituted *P. canaliculatum* (Muhl.) Pursh for *P. commutatum* since Muhlenberg's epithet was recorded before that of Schultes. However, in a fairly recent monograph on *Polygonatum*, Ownbey (1944) states that since not a single character in the description of *Convallaria canaliculata* Muhl. corresponds with the characters of the present *Polygonatum commutatum*, it is best to consider *C. canaliculata* as a synonym for *P. biflorum*.

After collecting a specimen of what proved to be *P. biflorum* from Pope County, the author was led to study the problems concerning *Polygonatum* in Illinois. The following key serves to separate the three species that occur in Illinois.

a. Leaves pilose on the nerves beneath.....1. *P. pubescens*.
a. Leaves glabrous beneath.....b
  b. Leaves more or less clasping or sheathing at the base, the largest ones with over 100 nerves; perianth 17–20 mm. long, the lobes 5–7 mm. long.....2. *P. commutatum*.
  b. Leaves sessile at the base, the largest ones with less than 100 nerves; perianth 10–17 mm. long, the lobes 3–4 mm. long.....3. *P. biflorum*.

1. POLYGONATUM PUBESCENS (Willd.) Pursh. In Illinois, this species grows in relatively moist, shaded woods in the northeast section of the state. It has been collected in Cook, DuPage, Kankakee, Lake, and Winnebago Counties, the collection from the latter county by Fell in 1945 being the only one since 1914.

2. POLYGONATUM COMMUTATUM (Schult.) Dietr. This is the common species of *Polygonatum*, found throughout the state in a wide variety of habitats.

3. POLYGONATUM BIFLORUM (Walt.) Ell. Only three collections for this species have been seen from Illinois where it grows in upland woods. All the stations are in the extreme southern part of the state. SPECIMENS EXAMINED: Pope Co.: atop sandstone bluff, Belle Smythe Springs, April 22, 1956, *Mohlenbrock 8015*; along Lusk Creek, May 21, 1952, *Bailey & Swayne 2359*. Hardin Co.: closed woods, Rock Creek valley, May 3, 1949, *Bailey & Swayne 673*.

THE NATIVE SPECIES OF PYRUS. E. J. Palmer in making his botanical reconaissance through southern Illinois in 1919 reported finding the narrow-leaved crab apple, *Pyrus angustifolia*, in Pope and Johnson Counties. These specimens, deposited in the Gray Herbarium and the herbarium of the Missouri Botanical Garden, have been considered merely as morphological variations of *Malus* (*Pyrus coronaria*) by Jones (1945, 1950) and Jones, *et al.* (1955), and do not represent the species which Aiton described. In the fall of 1957, the author found specimens which match Aiton's entity while collecting in a pin oak, overcup oak flat in Jackson County. Although *Pyrus angustifolia* is predominantly a plant of the southeast, it does extend into Kentucky and southern Illinois. *Pyrus lancifolia* Rehder, a plant which somewhat resembles *P. angustifolia* but differs

principally in leaf shape and flower and fruit size, is best treated as a variation of the more widespread *P. coronaria* L. Another species, *P. ioensis* (Wood) Bailey, has characters which separate it more easily from the other taxa.

The native members of the genus *Pyrus*, subgenus *Malus* in Illinois may be separated as follows:

a. Calyx densely tomentose on the outside; leaves on vigorous shoots tomentose or villous at maturity ..... *P. ioensis.*
a. Calyx glabrous or nearly so on the outside; leaves glabrous or villous along the veins beneath at maturity ..... b
  b. Leaves on vigorous shoots more than half as broad as long, distinctly lobed ..... 2. *P. coronaria.*
  b. Leaves on vigorous shoots less than half as broad as long, serrate or shallowly lobed c
c. Leaves of fertile branches acute or acuminate at the apex, more or less rounded at the base; pedicels 3.0–3.5 cm. long; petals 1.0–1.5 cm. broad ..... 2a. *P. coronaria* var. *lancifolia.*
c. Leaves of fertile branches obtuse to subacute at the apex, cuneate at the base; pedicels 2.0–2.5 cm. long; petals 0.5–1.0 cm. broad ..... 3. *P. angustifolia.*

1. Pyrus ioensis (Wood) Bailey. The Iowa Crab Apple is common in and along the edges of oak-hickory woods throughout Illinois. It is a frequent intruder in the hill prairies along the bluffs of the Mississippi River. Specimens from Richland (Ridgway in 1928) and Lawrence (Eaton in 1901) Counties determined as *Malus platycarpa* var. *hoopesii* (Rehder) Rehder may represent hydrids between *P. ioensis* and some other species, but with our present knowledge, this entity is best treated as a morphological variant of *P. ioensis.*

2. Pyrus coronaria L. The Wild Sweet Crab Apple is an occasional species of rather mesic woods in southern and eastern Illinois. Narrow-leaved forms may be segregated as: Pyrus coronaria L. var. lancifolia (Rehder) Fern. in Rhodora **49:** 232. 1947.

This variant is known through a few collections in southern Illinois now deposited in the Gray Herbarium from the counties of Jackson, Gallatin, and Pope.

3. Pyrus angustifolia Ait. This southern species has two known stations in Illinois where it grows in bottomland woods. The leaves remain green far into November. Jackson Co.: in pin oak-overcup oak flats, eight miles southwest of Murphysboro, *Mohlenbrock 8810.* Hardin Co.: near Rosiclair, October 10, 1919, *E. J. Palmer 17094.*

Helianthus hirsutus Raf. var. trachyphyllus T. & G. This variety which differs from var. *hirsutus* in having internodes short-hispid and scabrous and leaves 2–3 cm. broad can now

be added to the flora of Illinois on the basis of its collection in Jackson County: dry open woods, Lake Murphysboro Recreation Area, August 31, 1957, *Mohlenbrock 8005*.

SMILAX GLAUCA Walt. var. LEUROPHYLLA Blake. This smooth-leaved variety of lowland areas has been found for the first time in Illinois growing along the edge of LaRue Swamp in southwestern Illinois (Union County): edge of water, LaRue Swamp, three miles north of Wolf Lake, June 22, 1956, *Mohlenbrock 7926*.

BOEHMERIA DRUMMONDIANA Wedd. This species of false nettle, often considered as a variety of *B. cylindrica* (L.) Sw., has been found in a boggy area in southern Illinois (1 mile north of Murphysboro, *Mohlenbrock 756*) where it is associated with *Dryopteris thelypteris*, *Solidago patula*, *Eupatorium perfoliatum*, and other moisture-loving plants. The narrower, harshly scabrous, short-petioled leaves distinguish this species from *B. cylindrica*.

PILEA IN ILLINOIS. In treating the species of *Adicea* Raf. (=*Pilea*) of northern and central United States, Lunell recognized five species, four of which he named for the first time in 1913. Of these, three species have now been found in Illinois. All Illinois specimens of *P. opaca* have been collected since the publication of "Flora of Illinois" (Jones, 1950), and Fernald (1950) did not include this species in his manual. The following key separates these three species.

a. Achenes green, averaging 1 mm. wide ..... 1. *P. pumila.*
a. Achenes black, averaging 1.5 mm. wide ..... b
  b. Plants leafy above the middle; seeds averaging 1.5 mm. long ..... 2. *P. fontana.*
  b. Plants branching and leafy from near the base; seeds averaging 2.0 mm. long ..... 3. *P. opaca.*

1. PILEA PUMILA (L.) Gray. The common clearweed is abundant in moist situations throughout Illinois. Variation in the leaf margins occurs, leading to the naming of scarcely separable taxa such as var. *deamii* (Lunell) Fern. The light-colored fruit easily separates this species from the following two.

2. PILEA FONTANA (Lunell) Rydb. This is the smallest species of *Pilea*. Lunell described it "4–8 cm. altus", but most specimens observed frequently become 20 cm. tall. Usually the teeth on the margin of the leaf are much lower than in either *P. pumila* or *P. opaca*. The two col-

lections in the University of Illinois herbarium are the only ones known from Illinois. SPECIMENS EXAMINED: Grundy Co.: on rotting post in Illinois River, September 28, 1951, *Ahles 5058*. Vermilion Co.: on top of fill from a ditch in swamp, Muncie, October 2, 1950, *Ahles 3395*.

3. PILEA OPACA (Lunell) Rydb. This species also grows to a size larger than that ascribed to it in the original description. Lunell states that the species grows "10–30 cm. altus". While most of our specimens fit this range, some attain a height of 60 cm. The previously known records of *P. opaca* from Illinois are from Champaign, Cook, Iroquois, Piatt, and Vermilion Counties (collection data can be obtained by consulting Jones, *et al.*, 1955). Now, Union County can be added: low ground at base of limestone bluff, Pine Hills north of Wolf Lake, June 15, 1956, *Mohlenbrock*.

LITHOSPERMUM CROCEUM Fern. This species is included by Jones, *et al.*, (1955) under *L. caroliniense* (Walt.) MacM. Regardless of which species one recognizes, the Jackson County collection is the first from southern Illinois. A summary of characters between *L. croceum* and *L. caroliniense* follows:

L. croceum	*L. caroliniense*
Leaves over 30 on the stem	Leaves 25 or less on the stem
Leaves with papillose-based hairs	Leaves without papillose-based hairs
Bracts closely overlapping	Bracts often remote
Calyx lobes keeled, papillose	Calyx lobes flat, not papillose
Veins of calyx anastomosing	Veins of calyx free

COLLECTION DATA: dry oak-hickory woods, Lake Murphysboro Recreation Area, May 15, 1957, *Mohlenbrock 8021*.

EUPHORBIA COMMUTATA Engelm. The wood spurge is a very attractive species in the early spring since the upper leaves and bracts are red while the lower leaves are green. In addition to its known range in seven of Illinois' northern counties, it has been found now in Williamson County in the Devil's Kitchen area: mesic woods, nine miles southeast of Carbondale, March 30, 1957, *Mohlenbrock 8010*.

BROMUS BRIZAEFORMIS Fisch. & Mey. In searching through the herbarium at Southern Illinois University, a specimen of the rattlesnake chess collected in Washington County by French in 1872 was found, making the second known collection for this species in Illinois. It was collected previously from Richland County by Ridgway in 1902.

Literature Cited

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Ownbey, R. P. 1944. The Liliaceous Genus *Polygonatum* in North America. Ann. Missouri Bot. Gard. **31:** 373–413.
Palmer, E. J. and J. A. Steyermark. 1935. An Annotated Catalogue of the Flowering Plants of Missouri. Ann. Missouri Bot. Gard. **22:** 375–758.

TWELFTH REPORT OF THE COMMITTEE ON PLANT DISTRIBUTION

The eleventh report included the Dicotyledoneae through Moraceae. The present report deals with the families from Cannabinaceae through Aizoaceae, taken in the order of the eighth edition of Gray's Manual. Although the Polygonaceae were treated by Mr. Wm. P. Rich in 1902 (Rhodora IV-203), they are discussed again at this time.

The data for these reports have been compiled from the herbarium of the New England Botanical Club and from the Gray Herbarium.

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The sign + indicates that an herbarium specimen has been seen, the sign − that a reliable printed record has been found and the sign * is used for those plants which are not native in our flora.

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
CANNABINACEAE						
*Cannabis sativa L.	+	+	+	+	+	+
*Humulus japonicus Sieb. & Zucc.	+		+	+	+	+
*Humulus Lupulus L.	+	+	+	+	+	+
URTICACEAE						
Boehmeria cylindrica (L.) Sw.	+	+	+	+	+	+
Boehmeria cylindrica var. Drummondiana Wedd.			+	+	+	−
Laportea canadensis (L.) Wedd.	+	+	+	+	+	+
Parietaria floridana Nutt.		+				
Parietaria pensylvanica Muhl.	+	+		+		+
Pilea pumila (L.) Gray	+	+	+	+	+	+